UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,332	12/20/2001	Mark Moshayedi	SIMTECH.171A	4488

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EXAMINER
IQBAL, NADEEM

ART UNIT	PAPER NUMBER
2114	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/032,332	MOSHAYEDI ET AL.
	Examiner	**Art Unit**	
	Nadeem Iqbal	2114	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>*10 February 2005*</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-22* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-22* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

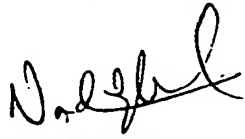8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

    1. ☐ Certified copies of the priority documents have been received.

    2. ☐ Certified copies of the priority documents have been received in Application No. _____.

    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

NADEEM IQBAL
PRIMARY EXAMINER

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Response to Amendment

This office action is in response to an amendment filed on Feb 10, 2005.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3.   Claims 1-8, 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et

al., (U.S. Patent number 6336174).

4.   As per claim 1, Li et al., teaches (col. 2, lines 63-65) a memory module (HAMM) that

includes a volatile memory, a nonvolatile memory coupled to the volatile memory for receiving

and storing information and a controller coupled to the memories. He also teaches (col. 3, lines

5-6) that HAMM is coupled to a host. HAMM detects and responds upon detecting a power

failure isolates itself from the host before copying information from volatile memory to

nonvolatile memory. He thus teaches limitations pertains to a system for flash memory systems with a host system, the flash memory system actively isolates the connection to the host system power supply and isolates the interface bus. He also teaches (col. 3, lines 15-17) that once isolated HAMM takes its power from an auxiliary power supply. He thus teaches supplemental energy store to complete write operations to flash memory. He does not explicitly disclose a flash memory system. Li teaches HAMM system includes nonvolatile memory, He further teaches (col. 6, lines 45-47) that nonvolatile memory can include flash memory. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to realize that He teaches a flash memory system, since he teaches nonvolatile memory system that can include flash memory.

5.   As per claim 2, Li teaches (col. 3, lines 5-6) that HAMM is coupled to a host. HAMM detects and responds upon detecting a power failure isolates itself from the host before copying information from volatile memory to nonvolatile memory. He thus teaches a detection circuit in communication with the power supply. He also teaches (col. 3, lines 15-17) that once isolated HAMM takes its power from an auxiliary power supply. He thus teaches auxiliary power source. He also teaches as stated per claim 1 above that HAMM detects and responds upon detecting a power failure isolates itself from the host before copying information from volatile memory to nonvolatile memory. He thus teaches limitations pertains controller circuitry configured to store data in volatile memory into flash memory. He does not explicitly disclose an isolation circuit isolating the auxiliary power source upon a power failure. He teaches (col. 8, lines 5-7) that if the system power fails, isolation devices will turn off and thereby electrically isolate the HAMM from the host system. It would have been obvious to a person of ordinary skill in the art to realize

that Li teaches the isolation circuit isolating the auxiliary power source upon a power failure,

since he teaches isolation devices that will turn off and thereby electrically isolate the HAMM

from the host system.

6. As per claim 3, Li teaches as stated per claim 1 above that HAMM detects and responds

upon detecting a power failure isolates itself from the host before copying information from

volatile memory to nonvolatile memory. He thus would include a tri-state buffer.

7. As per claim 4, Li teaches as stated above that HAMM detects and responds upon

detecting a power failure isolates itself from the host before copying information from volatile

memory to nonvolatile memory. The HAMM thus would clearly include a voltage detector, since

it detects a power failure.

8. As per claim 5, Li teaches (col. 9, lines 19-21) that the auxiliary power supply is a

rechargeable battery. Therefore would include capacitors.

9. As per claim 6, Li teaches (col. 9, lines 19-21) that the auxiliary power supply is a

rechargeable battery, and leaving the battery on during normal operation, the battery can be

recharged. He thus teaches charging an auxiliary power source. Li also teaches (col. 3, lines 5-6)

that HAMM is coupled to a host. HAMM detects and responds upon detecting a power failure

isolates itself from the host before copying information from volatile memory to nonvolatile

memory. He thus teaches a detecting a loss of power of the supply voltage, utilizing the auxiliary

power source to store data stored in volatile memory into flash memory. He does not explicitly

disclose isolating the auxiliary power source. He teaches (col. 8, lines 5-7) that if the system

power fails, isolation devices will turn off and thereby electrically isolate the HAMM from the

host system. It would have been obvious to a person of ordinary skill in the art to realize that Li

teaches the isolation circuit isolating the auxiliary power source upon a power failure, since he teaches isolation devices that will turn off and thereby eclectically isolate the HAMM from the host system.

10.   As per claims 7 & 8, Li teaches (col. 8, lines 5-7) that if the system power fails, isolation devices will turn off and thereby electrically isolate the HAMM from the host system. It would have been obvious to a person of ordinary skill in the art to realize that Li's isolation devices would include opening a relay interconnecting the supply voltage and auxiliary power source, since he teaches isolation devices that will turn off and thereby electrically isolate the HAMM from the host system.

11.   As per claims 17 & 19, Li teaches (col. 3, lines 5-6) that HAMM is coupled to a host. HAMM detects and responds upon detecting a power failure isolates itself from the host before copying information from volatile memory to nonvolatile memory. He thus teaches a power detector, a data store storing data into non-volatile memory. Li also teaches (col. 9, lines 19-21) that the auxiliary power supply is a rechargeable battery, and leaving the battery on during normal operation, the battery can be recharged. He thus teaches charging an auxiliary power source. He does not explicitly disclose isolating the auxiliary power source. He teaches (col. 8, lines 5-7) that if the system power fails, isolation devices will turn off and thereby electrically isolate the HAMM from the host system. It would have been obvious to a person of ordinary skill in the art to realize that Li teaches the isolation circuit isolating the auxiliary power source upon a power failure, since he teaches isolation devices that will turn off and thereby electrically isolate the HAMM from the host system.

12.   As per claim 18, Li teaches HAMM system includes nonvolatile memory, He further

teaches (col. 6, lines 45-47) that nonvolatile memory can include flash memory.

13.   .

14.   As per claim 20, Li teaches as stated per claim 17 above that HAMM detects and

responds upon detecting a power failure isolates itself from the host before copying information

from volatile memory to nonvolatile memory. HAMM includes volatile memory, there would

decouple the volatile memory from external connections.

15.   As per claim 21, HAMM detects and responds upon detecting a power failure isolates

itself from the host before copying information from volatile memory to nonvolatile memory.

16.   As per claim 22, Li teaches (col. 3, lines 5-6) that HAMM detects and responds upon

detecting a power failure isolates itself from the host before copying information from volatile

memory to nonvolatile memory. He thus teaches means for detecting loss of power detector,

means for storing data in a non-volatile memory. Li also teaches (col. 9, lines 19-21) that the

auxiliary power supply is a rechargeable battery. He thus teaches means for providing auxiliary

power. He does not explicitly disclose means for isolating the means for preserving data upon

detection of loss of power. He teaches (col. 8, lines 5-7) that if the system power fails, isolation

devices will turn off and thereby electrically isolate the HAMM from the host system. It would

have been obvious to a person of ordinary skill in the art to realize that Li teaches means for

isolating the means for preserving data upon detection of loss of power, since he teaches

isolation devices that will turn off and thereby electrically isolate the HAMM from the host

system.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999

(AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

do not apply when the reference is a U.S. patent resulting directly or indirectly from an

international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA

35 U.S.C. 102(e)).

2.   Claims 9-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Li et al., (U.S.

Patent number 6336174).

17.   As per claim 9, Li et al., teaches (col. 2, lines 63-65) a memory module (HAMM) that

includes a volatile memory, a nonvolatile memory coupled to the volatile memory for receiving

and storing information and a controller coupled to the memories. He also teaches (col. 3, lines

5-6) that HAMM is coupled to a host. HAMM detects and responds upon detecting a power

failure isolates itself from the host before copying information from volatile memory to

nonvolatile memory. He thus teaches limitations pertains to a memory device storing data stored

in volatile memory into non-volatile memory, upon loss of power to the memory device, external

connection to the memory device is isolated.

18.   As per claim 10, Li teaches (col. 8, lines 5-7) that if the system power fails, isolation

devices will turn off and thereby electrically isolate the HAMM from the host system. He thus

teaches an external connection to a power supply.

19.   As per claim 11, Li teaches as stated per claim 1 above that HAMM detects and responds

upon detecting a power failure isolates itself from the host before copying information from

volatile memory to nonvolatile memory. He thus includes an external connection to a data

interface.

20.   As per claim 12, Li teaches HAMM system includes nonvolatile memory, He further

teaches (col. 6, lines 45-47) that nonvolatile memory can include flash memory.

21.   As per claim 13, Li et al., teaches (col. 2, lines 63-65) a memory module (HAMM) that

includes a volatile memory, a nonvolatile memory coupled to the volatile memory for receiving

and storing information and a controller coupled to the memories. He also teaches (col. 3, lines

5-6) that HAMM is coupled to a host. HAMM detects and responds upon detecting a power

failure isolates itself from the host before copying information from volatile memory to

nonvolatile memory. He thus teaches limitations pertains to a method of storing data from

volatile memory to non-volatile memory, monitoring a power supply, upon loss of power to the

memory device, external connection to the non-volatile memory device is isolated.

22.   As per claim 14, Li teaches (col. 8, lines 5-7) that if the system power fails, isolation

devices will turn off and thereby electrically isolate the HAMM from the host system. He thus

teaches an external connection to a power supply.

23.   As per claims 15 & 16, Li teaches as stated per claim 1 above that HAMM detects and

responds upon detecting a power failure isolates itself from the host before copying information

from volatile memory to nonvolatile memory. He thus includes an external connection to a data

interface.

Response to Arguments

3.   Applicant's arguments filed Feb 10, 2005 have been fully considered but they are not

persuasive. Examiner final rejection is based on previously cited art of record based on Li et al.,

(U.S. Patent 6336174) only. Therefore Examiner would only respond to Applicants arguments

related to this applied art of record. As per claims 1-22, Applicants alleges that Li specifically

disclaims being a non-volatile or flash memory. Examiner disagrees with this allegation since Li

clearly teaches (col. 2, lines 63-65) a memory module (HAMM) that includes a volatile memory,

a nonvolatile memory coupled to the volatile memory for receiving and storing information and a

controller coupled to the memories. He also teaches (col. 6, lines 45-47) that non-volatile

memory can include flash memory. Applicant's arguments fail to comply with 37 CFR 1.111(b)

because they amount to a general allegation that the claims define a patentable invention without

specifically pointing out how the language of the claims patentably distinguishes them from the

references.

As per claims 3-22, Applicants have not presented any other arguments related to applied art Li,

which is used by the Examiner as the sole art for rejection of the stated claims, therefore,

Examiner applies the same response for these claims as presented for claim 1-22 above.

Conclusion

4.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a).

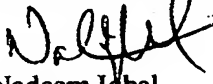Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nadeem Iqbal whose telephone number is (571)-272-3659. The

examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Robert W Beausoliel can be reached on (571)-272-3645. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nadeem Iqbal
Primary Examiner
Art Unit 2114

NI